conjunction with the receipt of the wake-up signal used to initiate operation. Thus, upon receipt and detection of the wake-up signal, analysis is performed to ready the communication device or devices for operation. For purposes of understanding, only the steps in addition to the warm-start signal detection process described in Figure 14 are shown in Figure 15. The analysis discussed in conjunction with Figure 15 may be performed at any time after receipt of the sequence signal. In addition, this is but one possible and exemplary method of operation. Other methods that do not depart from the concepts described herein are contemplated. At a step 1502 the operation analyzes the correlated signal to obtain present or current channel parameters. Channel parameters comprise information regarding the effect the channel has on a signal as the signal passes through the channel. The channel parameters may comprises, but are not limited to received signal power, received signal power spectral density , channel impulse response, channel transfer function, received noise power, received noise power spectral density. After analysis, the operation progresses to a step 1506 and the present channel parameters, determined in step 1502 are compared to the prior channel parameters as existed at the time of entry into sleep mode or power-down mode.

At a decision step 1510 if the difference in channel parameters is greater than the change allowed for a warm start operation, then the process progresses to a step 1512 wherein a cold start operation is initiated. It is contemplated that if the channel parameters have changed significantly, a warm start operation can not occur and a more involved cold start operation must occur. Alternatively, if at step 1510 the differences in

channel parameters are not beyond the threshold value then the operation may initiate a warm start process by advancing to a step 1516. At step 1516, the communication devices adjust the receiver and transmitter setting to account for any changes in the channel parameters. Thereafter, at a step 1520 the operation initiates the warm start process.

Figure 16 illustrates an operational flow diagram of an alternative method of operation. In the method described in Figure 16, channel analysis is performed on a periodic basis and may be combined with wake-up sequence signal from the warm start process. For purposes of understanding, the steps in addition to the warm-start signal detection process described in Figure 14 are shown in Figure 15. In addition, this is but one possible and exemplary method of operation. Other methods that do not depart from the concepts described herein are contemplated.

In reference to Figure 16, at a step 1602 the communication devices enter into a period of inactivity. The second communication device, the actions of which are shown in the right-most portion of the figure, may assume a state of monitoring at a step 1600. The period of inactivity may be initiated due to a period of non-use of the communication devices by users of the communication devices. In response to the period of inactivity, the systems power down to save power during the period of non-use. This occurs at a step 1606. Thereafter, at a step 1610, the systems enter a wait state. Any time period may be selected for the duration of the wait state. After the wait state expires, during which power is being saved and noise on adjacent channels reduced, a first

communication device generates a sequence signal, step 1614. In one embodiment the sequence signal comprises an M-sequence. In one embodiment the sequence signal is retrieved from memory instead of being generated.

After obtaining the sequence signal, the first communication device transmits the sequence signal at a step 1618. After transmission the first communication device may assume a state of monitoring at a step 1600.

Returning to operation of the second communication device, at a step 1626, the second communication device receives the signal sent by the first communication device. After receiving the signal, the second communication device correlates the signal to determine if it is a sequence signal of a particular pattern or simply noise or other signal on the line. At a step 1634, the second communication device processes and analyzes the correlated signal. If the received signal is a sequence signal then the processing and analyzing can be made to reveal information regarding the channel. Accordingly, at a step 1638 the second communication system may adjust the communication settings based on the processing and analysis. Thus during the wait state 1610, the channel parameters may have changed. The analysis of the received sequence signal will reveal these changes and the communication device settings may be adjusted accordingly.

At a step 1642 the second communication device enters a wait state. After the wait state at step 1642, the second communication device generates a sequence signal at step 1646 and transmits the sequence signal to the first communication device at a step